

REMARKS

Claims 1 – 20 remain in this application. Reconsideration of this application is respectfully requested.

In the Office Action, claims 1, 3, 9 – 11, 16, 18, and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by Casey et al. (U.S. Patent No. 3,997,512, hereinafter “Casey”). Applicant respectfully traverses this rejection.

With respect to independent claim 1, the Office Action states that the degree of crosslinking changes depending on a molding condition, and the gelation index changes depending on the degree of crosslinking. In other words, the degree of crosslinking would result in the difference in claimed gelation index. Therefore, the Office Action concludes that applicant fails to prove that the composition disclosed by Casey is outside of the claimed range of gelation index (1) and (2).

Applicant counters that in the present invention, the gelation index (2) is defined as in the present specification. A sample of a crosslinked resin composition or a sample of an article produced from the crosslinked resin composition by foaming or molding is accurately weighed. In the flask, the mixture of the sample and chloroform is poured and stirred for dissolving the sample. Then, the resulting solution in the flask is filtered through a 200-mesh wire net. The substance remaining on the wire net after filtration is dried. The mass W2 of the dried substance (obtained by filtration through the 200-mesh wire net) is determined. The gelation index (2) is defined as the ratio $(W2/W0 \times 100)\%$ of the mass W2 to the mass W0 of the sample determined before dissolving in solvent.

A gelation index (2) of not higher than 0.5% means that almost all of the crosslinked resin composition is soluble in chloroform. Therefore, the presently claimed composition is in a state of being very low on gel (a low gelation state). In particular, the gel content of the presently claimed composition is approximately 0%.

In contrast, the film of Casey does not dissolve in chloroform due to its cross-linked structure (see Example 12). The substance of Casey, which does not dissolve in chloroform, is not filtered through the 200-mesh wire net when the gelation index (2) is determined (i.e., the substance does not pass through the filter). As a result, the W2 for the substance of

Casey is nearly equal to W0. Therefore, in Casey the composition has a gelation index (2) of approximately 100%. Hence, it is impossible for the composition of Casey to have a gelation index (2) of not higher than 0.5%, as presently claimed.

Further, a gelation reaction by crosslinking is chemically irreversible. Once a composition gels, the degree of crosslinking of the composition does not change, even if the composition is foamed or molded in any given molding conditions (for example, an injection molding temperature of $T_m + 10^\circ\text{C}$ to $T_m + 60^\circ\text{C}$ and an exemplary temperature of 200°C). Because the degree of crosslinking of the composition does not change, the gelation index (2) does not change. Thus, the molding condition(s) does not affect the gelation index (2) of the present resin composition.

Consequently, the gelation index (2) of Casey's composition, which reaches approximately 100%, would not decrease to within the presently claimed range, no matter what molding condition is selected.

In sum, the gelation index (2) of the composition of Casey is clearly outside of the claimed range.

For these reasons, Casey does not anticipate claim 1, and claim 1 is patentable over Casey. Claims 3, 9 – 11, 16, 18, and 20, depending from claim 1, are also patentable over Casey. Accordingly, applicant respectfully requests that the Section 102(b) rejection of claims 1, 3, 9 – 11, 16, 18, and 20 as being anticipated by Casey be withdrawn.

Claims 2, 15, 17, and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Casey in view of Wang et al. (U.S. Patent No. 5,952,433, hereinafter "Wang"). Applicant respectfully traverses this rejection.

Applicant incorporates by reference the arguments made above with respect to the patentability of claim 1 over Casey. Based upon those arguments, claim 1 is patentable over Casey. Claims 2, 15, 17, and 19, depending from claim 1, are also patentable over Casey, and any combination of Casey with Wang. Accordingly, applicant respectfully requests that the Section 103(a) rejection of claims 2, 15, 17, and 19 as being unpatentable over Casey in view of Wang be withdrawn.

Claims 1, 8, and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Deckwer et al. (U.S. Patent No. 6,150,490, hereinafter "Deckwer") in view of Casey. Applicant respectfully traverses this rejection.

With respect to claim 1, applicant incorporates by reference the arguments made with respect to Casey above. In this regard, the gelation index (2) of the composition of Casey is clearly outside of the claimed range.

Further, Deckwer fails to remedy this deficiency. Deckwer fails to disclose or fairly suggest a gelation index (2) defined as the ratio $(W2/W0 \times 100)\%$ is not higher than 0.5%.

For these reasons, claim 1 is patentable over any possible combination of Deckwer and Casey. Claims 8 and 14, depending from claim 1, are also patentable over Deckwer and Casey.

Accordingly, applicant respectfully requests that the Section 103(a) rejection of claims 1, 8, and 14 as being unpatentable over Deckwer in view of Casey be withdrawn.

Claims 1, 2, and 13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Deckwer et al. (U.S. Patent No. 6,150,490, hereinafter "Deckwer") in view of Casey and Wang. Applicant respectfully traverses this rejection.

With respect to claim 1, applicant incorporates by reference the arguments made with respect to Casey above. In this regard, the gelation index (2) of the composition of Casey is clearly outside of the claimed range.

Further, Deckwer and Wang fail to remedy this deficiency. Deckwer and Wang both fail to disclose or fairly suggest a gelation index (2) defined as the ratio $(W2/W0 \times 100)\%$ is not higher than 0.5%.

For these reasons, claim 1 is patentable over any possible combination of Deckwer with Casey and Wang. Claims 2 and 13, depending directly or indirectly from claim 1, are also patentable over Deckwer, Casey, and Wang.

Accordingly, applicant respectfully requests that the Section 103(a) rejection of claims 1, 2, and 13 as being unpatentable over Deckwer in view of Casey and Wang be withdrawn.

Claims 4 – 7 and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Casey. Applicant respectfully traverses this rejection.

With respect to claim 4, for the same reasons as argued above, Casey and Wang both fail to disclose or fairly suggest a gelation index (2) defined as the ratio $(W2/W0 \times 100)\%$ is not higher than 0.5%. Therefore, claim 4 is patentable over any possible combination of Casey with Wang. Claims 5 – 7 and 12, depending directly or indirectly from claim 4, are also patentable over Casey and Wang.

Accordingly, applicant respectfully requests that the Section 103(a) rejection of claims 4 – 7 and 12 as being unpatentable over Casey in view of Wang be withdrawn.

Claims 1 – 4, 8 – 11, and 13 – 20 were provisionally rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 5, and 6 of copending application no. 12/312,808.

As stated previously, since the rejection is provisional, no further action is required until the double patenting rejection is the only remaining rejection in the present application and/or the rejection is no longer provisional. Applicant reserves the right to address the double patenting rejections and/or file a terminal disclaimer at a later date if necessary.

Claims 1 – 3, 8 – 11, and 13 – 20 were rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 9, and 10 of U.S. Patent No. 7,449,510 (hereinafter “the ‘510 patent”). Applicant respectfully traverses this rejection.

Since the rejection is provisional, no further action is required until the double patenting rejection is the only remaining rejection in the present application and/or the rejection is no longer provisional. Applicant reserves the right to address the double patenting rejections and/or file a terminal disclaimer at a later date if necessary.

Furthermore, the composition disclosed in claims 1, 3, 4, 9, and 10 of the ‘510 patent is not identical to the presently claimed invention. The composition in independent claim 1 of the ‘510 patent includes 0.1 to 10 parts by mass of at least one layered silicate selected from a group consisting of semctite, vermiculte, swellable fluoromica, kanemite, makatite, magadiite, and kenyte, and treated by at least one organic cation. The presently claimed

composition does not include a silicate. Therefore, the composition claimed in the '510 patent is not substantially identical to the present composition, and would not inherently possess the same properties as presently claimed. For this reason, claims 1 – 3, 8 – 11, and 13 – 20 of the present application are patentably distinct from claims 1, 3, 4, 9, and 10 of the '510 patent.

Accordingly, applicant respectfully requests that the nonstatutory obviousness-type double patenting rejection of claims 1 – 3, 8 – 11, and 13 – 20 as being unpatentable over claims 1, 3, 4, 9, and 10 of the '510 patent be withdrawn.

This request for reconsideration is felt to be fully responsive to the comments and suggestions of the examiner and to place this application in condition for allowance. Favorable action is requested.

Respectfully submitted,

Fumio Matsuoka et al.

Fildes & Outland, P.C.



Jeremy L. Gajewski, Attorney
Registration No. 52,930
20916 Mack Avenue, Suite 2
Grosse Pointe Woods, MI 48236
(313) 885-1500